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GENERAL FRAMEWORK FOR THE ELECTRICITY MARKET MONITORING

USAID GOVERNING FOR GROWTH (G4G) IN GEORGIA

28 September 2015

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GEORGIA

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ACRONYMS

ATC	Available Transfer Capacity
BM	Balancing Market
BRP	Balancing Responsible Party
CIS	Commonwealth of Independent States
DAM	Day Ahead Market
DSO	Distribution System Operator
ESCO	Electricity System Commercial Operator
EU	European Union
FERC	Federal Energy Regulatory Commission
G4G	Governing for Growth in Georgia
GNERC	Georgian National Energy and Water Supply Regulatory Commission
HIPP	Hydropower Investment Promotion Project
ISO	Independent System Operator
MCP	Market Clearing Price
MO	Market Operator
MW	Megawatt
NARUC	National Association of Regulatory Utility Commission
NE	New England
OTC	Over the Counter
RTO	Regional Transmission Organization
SA	Settlement Administrator
SEC	Securities and Exchange Commission
TSO	Transmission System Operator
USAID	United States Agency for International Development
USoA	Uniform System of Accounting
HHI	Hirschman – Herfindahl Indices
MENRP	Ministry of Environment and Natural Resources Protection of Georgia
REF	Request For Proposals
EEO	Equal Employment Opportunity
MS	Market Surveillance

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INTRODUCTION

The G4G Project provides technical assistance to the energy sector of Georgia on two specific topics:

- i. Energy strategy development, and
- ii. The electricity market trading mechanism.

This report covers the latter issues and in particular, the monitoring of the electricity market as the market becomes increasingly competitive with the participation of both public and private market players.

This report was initially developed under United States Agency for International Development (USAID) Hydropower Investment Promotion Program (HIPP). With the recent decision (Summer 2015) by the Georgia National Energy and Water Supply Regulatory Commission (GNERC) to actively pursue opening the retail electricity market, the level of market monitoring will greatly increase. Therefore, this report is being updated to include the monitoring framework for the competitive retail market.

1. SECONDARY LEGISLATIVE FOUNDATION FOR MONITORING ACTIVITIES

GNERC is authorized to monitor the energy sector licenses under existing legislation.

The current Law on Electricity and Natural Gas gives GNERC the authority to regulate in three broad areas:

- **Licensing:** GNERC has the authority to issue, modify, enforce (including the imposition of penalties), and revoke licenses under appropriate terms and conditions for electricity generation, transmission, dispatch, and distribution, and for natural gas transportation and distribution. GNERC is guided in licensing by:
 - i. The Law on Electricity and Natural Gas
 - ii. The Law on Licenses and Permits, and
 - iii. The licensing rules developed by GNERC
- **Tariffs:** GNERC has the authority to establish and modify tariffs for electricity generation, transmission, dispatch, distribution, wheeling, import, the services provided by the Electricity System Commercial Operator (ESCO), and the system capacity reserve required to be purchased by the ESCO. In the natural gas subsector, GNERC establishes and modifies tariffs for transportation, distribution, delivery and consumption, subject to certain exceptions.
- **Dispute resolution:** GNERC is to resolve disputes on matters within its competence between and among licensees, importers, exporters, suppliers, consumers, and the ESCO.

GNERC controls protection of license conditions and determines sanctions for violation of license conditions.

GNERC's Charter, approved in early 2008, further details the functions relating to GNERC's regulatory responsibility - for more details see GNERC's web site: www.gnecr.org. The members of the Commission, out of which one is the Chairman, are appointed and dismissed by the President of Georgia. Within the frame of its competence, the Commission issues resolutions as normative acts on general issues of regulation, while on individual issues, decisions are issued as normative acts. Operation of the Commission is not an economic activity, but its financing does not depend on the state budget: it originates from annual regulation fees paid by license holders.

Democratic procedures, admitted on an international level, are used for issuance of resolutions and decisions: at open (public) meetings of the Commission, any stakeholder (license holder, client, defender of clients' rights, representative of governmental and nongovernmental organization) has the opportunity to defend their interests, express their opinion and present evidences. The decision of the Commission can be appealed at Court.

Indicators demonstrating development of the Regulatory body from 2000 – 2010 are provided in the following table:

DEVELOPMENT OF GNERC 2000-2010 ¹								
Indicators	Unit	2000	2005	2006	2007	2008	2009	2010
Number of Commissioners by the end of the year	Unit	3	2	2	3	4	5	5
Number of employees by the end of the year	"	61	88	90	72	106	106	108
Adopted legal acts	"	99	141	148	65	79	102	208
Among them:								
Resolution	"	10	31	44	24	37	24	31
Decision	"	89	110	104	41	42	78	177
Number of	"	5	6	6	7	8	10	10

¹ Yearly Reports of GNERC – 2000-2010

DEVELOPMENT OF GNERC 2000-2010¹

Indicators	Unit	2000	2005	2006	2007	2008	2009	2010
departments								
Revenue	Th. GEL	865,2	2083,6	2835,6	4305,3	5968,4	8317,6	8709.3
Expenses	"	736,1	2063,3	2561,2	3715,1	5609,6	8227,1	7491.3
Number of legal acts per employee	Unit	1,62	1,60	1,64	0,90	0,74	0,96	2.3

Though GNERC has recently re-organized their Staff to re-focus on such topics as monitoring activities, GNERC still lacks knowledge of international experience in monitoring activities by energy regulators and needs to develop specific procedures for monitoring purposes that the Staff can follow.

USAID Hydropower Investment Promotion Project (HIPP) was requested by GNERC to "assist and support in drafting internal rules for the overall monitoring of the energy companies. Initially HIPP supported GNERC in the development of the original of this report, providing the general framework for GNERC in monitoring the energy sector licenses and the competitive electricity markets. Subsequent to this, HIPP provided an outline and later draft procedures for market monitoring (at the wholesale market level).

The requirements for managing and operating energy companies in Georgia are not simply found in the energy license under "License Conditions," but rather under many different legislative acts. Monitoring experts in GNERC must be thoroughly knowledgeable of all of these acts in order to perform their duties. Below is a small list of these acts for which the monitoring experts must read and fully understand. The entity that is responsible for their adoption follows each act or set of acts.

1. Specific energy regulatory reporting requirements (GNERC)
 - a. Annual financial reporting formats
 - b. Business plans formats
 - c. Operational reporting formats
 - d. Service and energy quality program reporting formats
2. Specific service and energy quality procedures, targets and reporting formats (GNERC)
3. Standards of design and construction of electrical installations (Ministry of Energy "MoE")
4. Specific operational requirements (MoE)
5. Power quality protection (MoE)
6. Specific safety regulations (MoE)
7. Environmental protection procedures (MENRP)
8. Tariff directions and table formats (GNERC)
9. Uniform System of Accounts (GNERC)
10. Regulatory Auditing Procedures (GNERC)
11. Market Rules (GNERC)
12. Grid Codes and Metering Procedures (GNERC)
13. Customer Service Rules (GNERC)
14. Standards for Fuel Reserves (MoE)

A monitoring expert must be responsible for several methods of monitoring. These processes include:

1. Review and assessment of periodic reporting by the energy licensee;
2. Regulatory audits performed by the monitoring expert or contracted out to consultant with the monitoring expert of GNERC coordinating the audit;
3. Review of tariff applications; and
4. Review, analyze and report on market operations or coordinate the activities of another entity charged with market monitoring responsibilities.

These monitoring processes are defined in more detail in this report.

2. MONITORING ACTIVITIES

REVIEW OF PERIODIC REPORTS FROM THE ENERGY COMPANIES

GNERC must make it clear to the licensees that one important license condition is that they must report periodically to GNERC using the report formats adopted by GNERC. The report formats may include:

1. Annual financial reports
2. Operational and regulatory accounting reports
3. Business plans
4. Tariff applications

Description of the review of a business plan (for transmission and distribution owners and system operators, Market Operator) shown below is an example of how the license monitoring expert within GNERC should evaluate reports from licensees. The following questions are sample questions that should be investigated and reported to the Commissioners in a monitoring report.

- a. Did the energy company follow GNERC-adopted format?
- b. Was all of the form completely filled out or were there specific areas not submitted?
- c. Are there details on projected annual investments during the forecasted period with specific and detailed reasons for each project or groups of projects with cost/benefit analysis provided? If not, what is the missing information?
- d. Are the investments tied to improvements in service and energy quality? If so, how are they tied?
- e. Is there a forecast of facility outages, construction periods, rehabilitation periods, etc.? What is the basis for the forecast? Is the forecast reasonable?
- f. Is there a forecast of operations and maintenance expenses broken down in detail? Is it higher or lower than previous levels? Are there any cost saving measures included and if so, what are they? What impact will the costs saving measures have on service quality?
- g. Are there specific annual targets for service and energy quality indicators included with an explanation for projected level of each indicator for each year?
- h. Is there a forecast of demand of energy and service sales? Is there an explanation of the growth level (energy, revenues) for each customer group?
- i. Are there comparisons between historical levels and project levels for all major categories (sales, revenues, O&M, investments, etc.)
- j. Are there details on the proposed financing requirements and acquisition of funding for the investments?

The monitoring expert should complete the review of a business plan with at least a summary report on the business plan with a recommendation for approval or recommended modifications as the monitoring expert deems necessary.

In review of a business plan, the monitoring expert may request the Commissioners to allow an investigation of a specific area of the business plan as a check on the progress and installation of new facilities. This investigation would be considered an audit described below under Technical Audits by GNERC.

REGULATORY AUDITS

Energy regulatory staff or the regulator's consultants perform regulatory audits of the energy sector licensees. There are three basic types of regulatory audits of the energy licensee:

- (1) Management and Operation
- (2) Financial and Regulatory Accounting
- (3) Technical

Management and Operation Audits

Management and operation audits are performed on a periodic basis. Energy regulators typically perform such audits for each licensee within a set period of time, such as every 3 or 4 years.

Most energy regulators post the final reports from the management and operations audits on their website. These reports have a common format:

1. Cover page – name of licensee, the name of audit team, the topics covered
2. Letter from Licensee's top management responding to report findings and recommendations
3. Executive summary of report that:
 - States the scope and objective of the audit and cites any detailed issues,
 - Includes a summary of each of the major findings, and,
 - Provides an overall conclusion with regard to the activities audited.
4. Overview of the company and the audit topics
5. A detailed analysis that
 - Provides more detailed information about the scope, objective, background, and timing of the audit
 - Provides more detail regarding the audit comments communicated to management in audit observation sheets, and
 - Provides an individual conclusion for each of the activities audited.
6. Recommendations for change of management and operation processes

The audit team will develop a set of topics that the team will cover in every management and operation audit such as the organization design, governance, internal audit procedures and reports, management controls, and the relationships between the affiliates and holding company. The audit team will also pick other specific areas that it wants to cover for the audit. Examples of these areas are corporate procurement practices, financial planning practices, and human resource training. Problem areas identified in an audit are normally covered in the next audit of the licensee to ensure that the licensee has followed up on the recommendations from the previous audit report.

The management and operation audits typically are flexible in nature. The audit will go through three phases. The **first phase** is the diagnostic review where specific areas of management and operations are evaluated against international best practices. The **second phase** focuses on the topic areas specified by the audit team prior to the commencement of the audit. If the second phase results provides some areas of concern that need further investigation, then **third phase** is added to the audit that includes in-depth review of specific issues identified in second phase.

An example of audit procedures for a consultant to follow for an energy regulator is included in this report as Attachment 1. Various topics that could be included in a management and operations audit are detailed in Table 1 below.

Financial and Regulatory Accounting Audits

This report will not go into the details of the financial and regulatory accounting audits. A separate task under the Energy Regulatory Development Project will involve the development of the financial and regulatory accounting audit procedures for GNERC. Some aspects of the audit are specified in Table 1 below.

Technical Audits

Technical audits are not performed on a periodic basis. Some energy regulators, such as the Kentucky Public Service Commission, perform an audit of all new interconnections to the transmission system including new substations, new circuits, and new generating facilities.

Some technical audits are performed when several complaints are filed by consumers. These complaints often relate to power failures or poor power quality in a specific geographic area. This issue is described in more detail later in this report.

Many energy regulators perform technical audits during the construction of major facilities. These facilities include generating stations, gas storage facilities, and transmission lines including large interconnections to facilities outside the jurisdiction of the Regulator. The monitoring expert investigates such issues as construction methods, equipment specifications, safe labor practices, and environmental protection.

For GNERC, the review of the service and energy quality program will be the largest effort for the technical audits. The technical audit of the service and energy quality programs includes three principal task areas:

1. Examining the systems, processes, and procedures by which the energy company measures and records performance results
2. Conducting detailed tracking of the data the energy company uses to measure performance (to verify accuracy, completeness, and use in actual measurements of performance results)
3. Replicating the energy company's calculations of performance results to verify their accuracy and completeness

The monitoring expert should perform a spot check on each of the key indicators of service and energy quality to ensure that the logging of information was correct. The expert should also review the process that is used to collect company-wide information, analyze it and report it to GNERC. Examples of audit reports relating to service and energy quality programs can be found on the internet sites of many energy regulators in the US and Europe.

Attachment 2 to this report includes a New Jersey Board of Public Utilities document which includes the Procedure to Hire Outside Technical Auditor to Provide System Investigation on Offerings of Competitive Services and Audit Procedures. The procedure for hiring a consultant provides a useful example of what GNERC should consider when hiring consultants to perform an audit. The key issues to include in the procedures are:

1. Providing a very specific scope of work
2. Specifying the objective (reasons why the audit is necessary and what should be the results of the audit)
3. Detailing the time schedule for the audit including milestone dates
4. Responsibilities of the Parties (consultant, GNERC staff and the licensee management) during the audit
5. Proposal (personnel, experience of personnel and firm, breakout of costs, detailed work plan)
6. Conflicts of interest
7. Incurred costs and compensation
8. Confidentiality

The audit procedures included in Attachment 2 provides the procedures to be followed during the audit by a contractor. These procedures could also apply to GNERC monitoring expert. The procedures include:

1. Safety Standards (especially for operating facility visits)
2. Project Control
3. Monthly Progress Reports
4. Invoices (or running costs for GNERC staff)
5. Draft Report
6. Final Report

Follow-up of Recurring Customer Complaints (a subset of Technical Audits)

Customer complaints normally are isolated incidents that do not indicate a general overall problem at the utility. But when a type of problem becomes a common theme in customer complaints, GNERC should take the initiative to investigate the root of the problem. The investigation should follow a specific procedure as outlined below:

1. GNERC should write a letter to the managing director of the licensee announcing the start of an investigation. The letter should state the nature of the issue or issues involved, the specific customer complaints that created the investigation providing the names of the customers, the date when the complaint was filed with GNERC and the resolution, if any, with the complaints. The date when a written response should come back from the licensee should be specified.
2. GNERC should review the response from the licensee. In most cases, the licensee will propose a reasonable solution to the problem within a reasonable time frame and should provide updates to GNERC on a regular basis on the progress of solving the problem or problems.
3. In cases when the solution continues to be a matter of further customer complaints, then GNERC should inform the licensee in writing of the further complaints and that GNERC will investigate the problem or problems at the location of the licensee where the problem exists.

4. The assigned person from GNERC should:
 - i. Interview the management of the company
 - ii. Interview the customers at their residences
 - iii. Identify the problem or problems
 - iv. Develop a solution to the problem or problems independent of the licensee
 - v. Propose a solution to the problem or problems to GNERC. The solution may include sanctions, if the licensee was found to be in violation of the relevant legislation
 - vi. GNERC writes a letter to the licensee informing them of the results from the GNERC investigation and requests their feedback within a specified period
 - vii. Based on the response of the licensee, GNERC may sanction the licensee for any violation unless the licensee can provide justification of why it has not violated the relevant legislation.

Further sanctions can be assessed by GNERC if the energy company does not follow the solution provided by GNERC and/or the problem persists.

Table 1. Three Types of Regulatory Audits

Management and Operational Audit (Legal, Economic, and Finance)	Regulatory Accounting and Reporting Audit (Accounting)	Technical Audit (Producers and Networks) Engineering
Ownership and Affiliates <ul style="list-style-type: none"> - Unregulated Business Activities - Affiliated Relationships - Conflicts of Interest Outstanding Court Cases and Recent Decisions Management Structure Procurement and Contracting Practices Human Resources <ul style="list-style-type: none"> - Labor Practices - Safety Practices - Compensation - Training Public Safety Practices Inventory Management Practices Forecasting and Budgeting Financing Practices Settlement, Billing and Collections Practices Maintenance Practices	Accounting policies Accounting rules Staff required competencies Staff training program Proper booking of accounts Proper allocation of expenses, assets and liabilities Timeliness of booking of accounts Proper reporting of accounting information to GNERC Construction in progress Capitalizing versus expensing of cost items Customer accounts database including energy use and payment history	Assessment of Technical Activities <ul style="list-style-type: none"> - Research - Design - Engineering - Construction - Startup - Technical Operations - Maintenance Review of Service and Energy Quality Program Review and Assessment of the Conditions of Physical Connections Review and Assessment of the Conditions of the Main Facilities Review and Assessment of Performance Data Review and Assessment of Operational Procedures and Actual Operations Review and Assessment of Emergency Procedures

TARIFF REVIEWS AND ANALYSIS

USAID HIPP provided GNERC with the US National Association of Regulatory Utility Commission's (NARUC) Rate Case and Audit Manual. The manual provides detailed procedures on how to examine a tariff application. Though the procedures are geared to the US style of regulation, the procedures can be easily modified to the Georgian style of energy regulation.

A tariff review and analysis will require a firm understanding of the accounting system, the tariff legislation, technical aspects of the licensee type, and good techniques for identifying and analyzing the tariff information provided by the licensee. The monitoring expert must review and analyze:

- 1) The information included in the tariff application
- 2) Any tariff design proposals made by the licensee or other party
- 3) Written testimony from expert witnesses from the licensee and other parties
- 4) Responses to written and oral questions developed by GNERC for the expert witnesses.

The monitoring expert may find that further information is required and a specific audit at the licensee's location is necessary. The procedures in the NARUC Manual provide guidance on how to perform the

audit and it also provides some insights on how to investigate some of the key issues in a rate application case.

The monitoring expert should provide a complete analysis (report) of the rate application with recommendations on accepting or modifying each major item in the case and any other items identified during the audit phase. The report should include a general overview of the case, the key issues, findings about the key issues, recommendation of the revenue requirements, rate class allocations, and final rate design for each rate class.

MARKET MONITORING

Market monitoring is a completely different process than license monitoring. The energy markets include the interaction of many market participants and supporting service companies operating under the rules of the market: open access rules, trading rules and the technical rules (for example, “grid code”). The techniques that are used to review and analyze the energy markets have been developed globally over the last twenty years as competitive energy markets have been established and developed. Lessons learned from market failures have highlighted the need for regulators to pay close attention to market operations.

Energy regulators tended to allow the transmission system operators (TSOs) to perform market monitoring until energy regulators found that the TSOs were sometimes biased in their reviews, analysis and recommendations. In fact, the TSOs may have been guilty themselves of violating rules which, of course, never showed up in market monitoring reports. It is now common practice for energy regulators to assume the responsibility of market monitoring to eliminate any bias of the TSOs.

Similarly, regulators seek information on retail market operations, both regulated and competitively priced trading, from the distribution system operators (DSOs). Electricity retail market open access relates to not only the distribution network facilities, but also to access to DSO offices, personnel and customer data. Incumbent retail electricity suppliers (the electricity distribution companies) will be reluctant to lose their retail consumers, so careful unbundling and competitive market development along with active market monitoring is necessary to ensure consumers will fully benefit with open access.

The market monitoring process (procedures) should include the following aspects:

1. Maintenance of market documents (open access, market rules, grid codes, switching rules, supplier of last resort rules)
2. Formats of required reports from Market Participants
3. Steady flow of data (such as daily, weekly, monthly info) from the market operator, transmission operator, others
4. Analysis of market information
 - a. System operations
 - i. Daily System Analysis
 - ii. Network Congestion Analysis
 - iii. Facility Outages (Generation and Transmission)
 - b. Market operations
 - i. Daily Market Analysis
 - ii. Weekly/Monthly Data Summaries
 - iii. Market liquidity
 - iv. Price Formation
 - v. Market Power Analysis
 - c. Retail customer accounting database
 - i. Number of Direct Consumers
 - ii. Number of Eligible Consumers
 - iii. Number of Retail Consumers not Supplied by Regulated Supplier
 - iv. Number of Suppliers
 - v. Number of Customers that Switched Suppliers in the Year
 - d. Settlement and Invoicing
 - e. Violation of Rules
 - f. Sanctions

- g. Market Participants Disputes and Resolutions
- h. Problems with Rules – Need for Modification
- 5. Monthly Market Monitoring Report
- 6. Periodic Technical Audit of MO, TSO and DSOs
- 7. Recommended Amendments to Market Documents (trading, access, & grid rules)
- 8. Recommendations on Market Design Changes

The recent World Bank Agreement with the Government of Georgia to providing lending up to US \$6 million for the creation of competitive market software signals another big issue for GNERC to monitor. The software development and its regular updates will require monitoring by GNERC to ensure that:

- The software design and coding exactly match the market regulations, no less and no more;
- Software is certified to be compliant by TSO, MO and DSOs;
- Commercial information is identified and protected;
- Proposed software changes are only completed as required by the market regulation;
- Include market surveillance software and automated market monitoring reporting to GNERC;
- Rules are adopted and followed covering customer account software to ensure only traders contracted with a consumer has the energy use data and contact information for that consumer;
- The DSO generates reports from the customer account database providing detailed information, on a cumulative basis, on retail trading (regulated and competitive) during the previous month.

DATA AND INDICES TRACKED BY MARKET MONITORING DIVISIONS

There is no universally accepted set of market monitoring statistics and indices. In practice there is a large set of data and indices that are monitored on varying time scales. No single set of metrics can cover all possibilities within a category, and there are grey areas between defined categories. Nevertheless the following groupings serve as a useful guide:

- Market Prices, Demand and System Conditions;
- Market Structure Indices;
- Supplier Indices and Analysis;
- Market Performance Indices and Analysis.

1. Market Prices and System Conditions

The level of market prices is perhaps the most obvious thing there is to monitor. However, a moderate market price can be a sign of market abuse if it comes at a time when demand is low. This means that prices must be related to system conditions, most importantly, the level of demand, but also the level of available capacity, and indicators of transmission congestion. Although not all these measurements are directly tied to a particular index of market power, they can sometimes indicate irregularities in the market that may be symptomatic of market power problems. Furthermore, such data may also facilitate the development of other standard metrics of market power. These statistics are typically reported on a monthly, seasonal, and an annual basis, but should be collected for every period in which the market is operating. We can differentiate between the raw data collected by the market monitor, and the statistics that are subsequently derived from them. The raw data can include:

1.1. Prices:

- Energy prices in the real-time market, day-ahead market, and forward or futures markets (which may depend on price reporters in an over-the counter market where there is no formal exchange).
- Energy prices in adjacent markets (which should move together with prices in this market, unless congested transmission separates the markets).
- Prices for ancillary services, such as reserve.
- Prices in the capacity market(s), if they exist.
- Fuel prices determine the costs of most generators, and so it should be useful to record spot and forward prices for the fuels used in the market, typically natural gas, coal and oil.
- The identity of the price-setting unit(s), in markets where identifiable units set prices; otherwise, of the price-setting company or companies.

1.2. Demand Conditions:

- Forecasted system demand will be a key driver of the price in day-ahead markets.
- Actual system total demand will affect the real-time markets, particularly when it differs significantly from the forecast.
- Capacity Availability.
- The total generating capacity owned by each generator will show whether the market is generally well-supplied relative to demand.
- Actual declared availability at each point in time shows whether the market is well supplied, relative to demand, at that time.
- The number and size of generating units with planned, unplanned and forced outages - may explain why available capacity is less than total capacity.

1.3. Transmission Congestion:

- The number and size of transmission planned, unplanned and forced outages can affect the number of constraints on the system.
- Transmission constraints on the system, with the nature of each constraint (thermal, voltage, stability), and the limiting element in the grid; information on which transmission lines were announced to be constrained and which transmission lines were actually constrained during the dispatch.
- Counter-trades (where these are used to resolve congestion), including the identity of the constrained plants, the MW constrained on and off, and the payments made.
- Total MW constrained on and off (in a counter-trading system).
- Total constrained on and off payments.
- Information on transmission contracts.
- Given that the raw data are available, there are some statistics that can usefully be derived and monitored for signs of any problems in the market.

1.4. Price Trends:

- Moving averages or other trend analysis of prices can reveal patterns which might be hidden by day-to-day volatility.
- Frequency of price hitting market price cap, when a cap exists, is an indicator of how prices might change if the cap were adjusted or removed.
- Frequency of other bid mitigation if some is permitted.
- Volatility measures (variance, min-max prices).

1.5. Price Comparisons:

- Comparing the real-time price with the day-ahead price or forecasted price can show whether the earlier markets are an efficient predictor of real-time events, and highlight unexpected deviations.
- Comparing the market price with the prices in adjacent markets can show whether efficient arbitrage is taking place, although this depends upon the availability of transmission capacity.
- Comparing the price for energy and for ancillary services can show whether the prices reflect the relevant opportunity costs of offering the services.
- Comparing the market price with the system load can show whether high prices are due to high demand levels.
- Comparing the market price with fuel costs can show whether changes in final prices reflect changes in input prices, and vice versa.

1.6. Price Setting Analysis:

- Is the frequency with which particular units (or companies) set the market price correlated with whether they are a net buyer or net seller in that market, with the level of demand, the time of day, or some other market characteristic?
- Are there any correlations with the level of the market price they set? A net seller will generally want higher prices, and a net buyer will want lower prices, for example.

1.7. Demand and Capacity Comparisons:

- Capacity margin – the ratio of maximum generation capacity (ignoring outages) to demand is an indicator of the general tightness of the market, and likely to be related to the level of prices.
- Supply cushion – the ratio of the difference between total offered volume and system demand to total offered volume measures the tightness of the market at a particular time.

1.8. Congestion Analysis:

- Is it possible to identify units which have caused constraints by their bidding?
- Does the price-setting algorithm ever set nodal prices above the highest bid taken?
- Is there a correlation between changes in a unit's bid price and the frequency with which it is constrained on or off?

2. Market Structure Indices

A second set of indicators relates to the market structure, underlying features of the market that will, in most cases, change only gradually. This means that some of the data need only be collected periodically, rather than on a continuous basis. The raw data in this area consist of information on generator market shares and on the price responsiveness of demand. That information can then be analyzed to give the pivotal supplier index and residual supply index.

2.1. Market Shares:

- Market shares for each company can be collected, and concentration indices can be calculated. These can be based on shares of capacity, or of output. In some contexts, market shares within a particular sub-set of units can be of particular interest, which could include a subdivision on the basis of :
 - Fuel type
 - Price setting units
 - Location (i.e., units within a given load pocket).

When output shares are used, these can be collected at various frequencies, ranging from hourly to annual; monthly and daily shares are also sometimes reported.

2.2. Hirschman-Herfindahl Indices:

- The market share data can also be used to calculate HHI figures, on exactly the same bases as the concentration ratios.

2.3. Demand Responsiveness:

The responsiveness of demand to changes in price affects generators' ability to exploit a large share of the supply side of the market and drive up its price. It can be measured by:

- MW of demand response capabilities in energy and ancillary service markets.
- Load weighted % of demand bids that are price responsive.
- % of load with real-time metering capability.
- Price elasticity of demand.
- Changes in those demand response capabilities (spread of technology).

2.4. Pivotal Supply Analysis:

- This can be performed in each of the hourly, day-ahead and ancillary services markets.

2.5. Residual Supply Indices:

- Similarly, these can be calculated for each market, including hourly, day-ahead and ancillary services. Having calculated these indices, the market monitor can seek to establish the relationship between the market price and these measures of market competitiveness. If it is possible to establish the levels at which market performance will be broadly acceptable, then these levels can be used as a screen for analyzing merger proposals.

3. Supplier Indices and Analysis:

The focus of supplier analysis is on the behavior of individual suppliers who might have market power. In this area, the raw data consist of bid and outage information. The first transformation may be to produce reference bids, 16 of which indicate how each unit behaves in normal conditions. (The term 'bid' in this paper is generally used in a broad sense and can refer to both buying and selling. More narrowly, a 'bid' refers to a buying submission and 'offer' to selling submission.) This process will not identify a sustained abuse of market power, but a change in conduct in response to a short-term change in circumstances will be spotted. Further analysis can then focus on identifying the circumstances that might make such a change in behavior profitable, and checking whether the generator's behavior does indeed change in response. Similar analyses can evaluate unit outages to market conditions.

3.1. Market Bids:

The full set of bids to each organized market must be available to the market monitor, including prices, availability, and any technical constraints (such as ramp rates) that are taken into account when setting prices.

3.2. Outages:

Data should be held on the number and duration of:

- Deratings, including the number of MW by which the unit's capacity is reduced.
- Scheduled and forced outages.

3.3. Reference Bids:

These should be constructed for each market into which a unit normally bids (e.g. day ahead markets, real-time markets, and reserve markets), and can be estimated in various ways:

- The mean or the median of the unit's bids over the previous X (e.g. 90) days for similar hours or load levels, adjusted for changes in fuel prices
- The mean of the nodal price at the unit's location during the lowest priced X (e.g. 25) percent of hours that the unit was dispatched over the previous X (e.g. 90) days, adjusted for changes in fuel prices
- The mathematical mean of the bids supplied by all units of similar types
- The unit's estimated marginal cost.

3.4. Bid Variation:

Changes in the unit's bids, which may be related to the abuse of market power, can be identified by:

- Deviation of bids from reference price levels
- Deviation of bids from longer or shorter-term moving averages of prior bids
- Frequency of re-bidding from standing orders (i.e. bids which were automatically submitted every time unless over-ridden).

3.5. Analysis of Bidding:

The monitoring activities can include:

- Correlation between bids and the level of demand
- Correlation between unit schedules or bids and the existence or magnitude of congestion
- Correlation between unit schedules or bids and the market price
- Comparing bid patterns between participants.

3.6. Output Analysis:

The load factor, or capacity ratio, of an electricity generating unit is equal to its actual output divided by its maximum generation capacity multiplied by the length of the time period being considered. A falling load factor can be a sign of intentionally withholding energy, although it can also be a competitive response to market conditions.

3.6. Analysis of Outages:

This can include:

- Correlation between outages and the market price
- Comparison of outage frequencies with similar generators
- Output gap analysis – the ratio of actual hourly output to economically available capacity
- Correlation between a generator's forced outages and the nodal price or congestion
- Correlation between transmission facility's forced outages and the nodal price or congestion. In some markets in North America, price bids are automatically screened, and the impact of each bid on the market price is calculated. Where this is found to be unacceptable, the bid may be automatically mitigated to the level of a reference price.

4. Market Performance:

There are some indicators of market performance that are easily collected. Others require complicated calculations.

4.1. Liquidity Measures:

- The number of suppliers in short-term and long-term markets, and in particular the number of traders who do not have physical positions in the market, can indicate the level of confidence held in the market, and affects how easily a market participant can find a counter-party for a trade.
- The volume of trade in a market, relative to the underlying physical demand, is another useful measure of liquidity.

4.1. Spot Market Exposure:

Research on forward markets, and the experience in California, teaches us that undue reliance on electricity spot markets is likely to lead to bad results. We can measure this by monitoring:

- The percent of load that is bought in under long-term forward contracts
- The percent of load that is supplied by insufficiently unbundled companies with no use of market mechanisms.

Major Activity	Tasks	Information Needs	Data Requirements			
			Specific Data Needs	Data/Information Source		
				USOA	Operational	Other
Market Monitoring	Market Prices, Demand and System Conditions	Market Prices	Energy prices in real time market, day-ahead market and forward of future markets			
			Energy prices in adjacent markets			
			Prices for ancillary services			
			Fuel prices determine the costs of most generators			
		Demand Conditions	Forecasted system demand			
			Actual system total demand			
		Capacity Availability	Total generation capacity			
			Actual declared availability			
			Number and size of generating units planned			
		Transmission Congestion	The number and size of transmission planned			
			Information on transmission contracts			
		Price Comparison	Comparing price the real time price with the day-ahead price or forecasted price			
			Comparing the market price with the prices in adjacent markets			
			Comparing the price for energy and for ancillary services			
			Comparing the market price with the system load			
		Demand and Capacity Comparisons	Capacity margin			
			Supply cushion			
	Market Structure and Supplier Indices and Analysis	Market Structure Indices	Market shares (output)			
			HHI (output)			
			Residual supply indices			
		Supplier Indices and Analysis	Market bids			
			Outages			
			Analysis of bidding			
	Market Performance Indices and Analysis	Liquidity Measures	Output analysis			
			Analysis of outages			
		Spot Market Exposure	The number of suppliers in short-term and long-term markets			
			The volume of trade in a market			
			The percent of load that is bought in			

Major Activity	Tasks	Information Needs	Data Requirements			
			Specific Data Needs	Data/Information Source		
				USOA	Operational	Other
			under long-term forward contracts			
			The percent of load that is supplied by insufficiently unbundled companies with no use of market mechanisms			
Reporting	Annual					
	Quarterly					
	Monthly					

3. STAFFING REQUIREMENTS FOR MONITORING PURPOSES

The personnel in the electricity and natural gas departments of the GNERC have the responsibility for supporting the Commissioners on license applications, tariff applications, and license monitoring. The personnel in the electricity and natural gas sector divisions of GNERC also have the responsibility of market monitoring. Each person in the divisions could be considered a potential monitoring expert.

Monitoring of a licensee or a market is almost always done (and should be for transparency reasons) on a team basis. Monitoring of energy licensees usually requires background in several disciplines (such as engineering, economics, accounting, finance and legal). Having multiple people covering the monitoring of a single licensee or market ensures that there will be continuity in the monitoring of the licensee in the absence of one individual from the division either for short periods or resulting from termination from GNERC. And having a team concept allows far more flexibility in personnel assignments. Even when an audit is contracted to an outside consulting firm, there is usually a lead coordinator at GNERC with a back-up for ensuring continuity.

The staffing requirements for GNERC in completing its responsibilities in monitoring the energy sector licensees and the competitive energy markets should be evaluated on an ongoing basis to determine if the staffing level is adequate. International experience will not help much in providing a reasonable estimate because the legislative requirements, the number of licensees in a sector, the license conditions and the extensiveness of monitoring are very specific to a particular country and energy regulator.

Using an example of calculating the number of specific efforts and level of effort for each effort that needs to be completed for a sector could provide some insight. Assume that one of the energy sectors has 60 licensees. This would mean that each year GNERC would receive 60 business plans, 60 annual reports, perform 15 management and operations audits per year (once every four years for each licensee), perform 12 regulatory accounting and reporting (once every five years for each licensee), review and approve 60 tariff applications (some will be comprehensive, some will be annual adjustments) and perform 12 monthly competitive market reviews, analysis, and reporting.

Technical audits are very specific and are nearly impossible to determine a level of effort. Energy regulators, though, must assume some level of effort for staffing for technical audits. To the extent that the staffing level cannot cover all the technical efforts, outside consultants need to be hired to complete the technical audits.

Example of Calculating the Level of Effort for Monitoring Purposes

1. Review and Analysis of Reports

1 Licensee report = $\frac{1}{2}$ people-month review/licensee

60 Licensee reports = $\frac{1}{2}$ people-month * 60 licensees =

30 people months or 2.5 full-time people

2. Management Audits – assume 15/year

1 management audit = 3 people * 2 months = 6 people-months

15 management audits = 6 people-months * 15 audits/year =

90 people-months or 7.5 full time people

3. Tariff applications - assume 12 comprehensive and 48 annual adjustments

1 comprehensive tariff application review = 3 people for 1 month

12 comprehensive reviews = 3 people-months/review * 12 reviews =

36 people months = 3 full time people

1 annual tariff adjustment = $\frac{1}{2}$ people month

48 annual tariff adjustments = $\frac{1}{2}$ people-month/review * 48 adjustment reviews =

24 people months or 2 full-time people

4. Regulatory Accounting and Reporting Audit assume 12/year

1 audit = 2 people * 2 months = 4 people-months

12 audits = 4 people-months/audit * 12 audits/year =

48 people-months or 4 full time people

5. Market Monitoring = 2 people-months for each month
12 Months of Monitoring = 2 people-months/Monitoring * 12 Months =

2 full time people

6. For this example, assume that **1 full-time person** has been assigned to technical audits.

In total for this example, the Energy Regulator would need 23 full-time people to monitor the sector with 60 licenses. The expertise for GNERC would, of course, come from the sector technical division, the legal division and the financial division. And the other two sectors would have to be examined similarly. Given that GNERC staff has other obligations other than monitoring, such as licensing and dispute resolution, the existing staff level under this example would not be sufficient to fully complete all the tasks. As the energy markets expand and more licenses are provided to energy companies, GNERC staff will be under more and more pressure to complete their monitoring tasks on a timely basis.

GNERC has several options that it can follow, if as the result of their examination, GNERC determines there is insufficient level of the staffing for monitoring purposes. These include:

- 1) Request a higher staffing level from the Parliament in order to fully complete its monitoring responsibilities given it under the Energy Law
- 2) Extend the period for audit reviews
- 3) Reduce the audits to priorities items
- 4) Reduce the audits to high level review.

Market Monitoring Expert

General professional experience:

- Be an employee of a public administration body
- Minimum 10 years of professional experience.
- Strong analytical and managerial capability
- At least 2 years' experience of the transition economies of the CIS would be beneficial.

Specific professional experience:

- At least 2 years' experience in developing and operating market monitoring methodologies, techniques and programs in an Energy Regulatory Body in the EU or CIS countries.
- Experience in developing, coordinating and conducting market monitoring training programs for an Energy Regulatory Body in the EU or CIS countries.

4. CONCLUSION

This report provides a framework for GNERC to follow as it develops energy license and market monitoring procedures. The referenced documents in this report and Attachments 1 and 2 to this report provide international practice in the outlines of the monitoring procedures. Taking into consideration the Georgian legal context and the somewhat limited staffing levels discussed above, GNERC can now proceed with the drafting of the license and market monitoring procedures.

ATTACHMENT 1

Sample of Management and Operation Audit Procedures

AUDIT PHASES. The audit will consist of two or three phases: a diagnostic review (Phase I), an in-depth analysis of Pre-Identified Areas or Issues (Phase II), and a potential focused analysis (Phase III) resulting from the diagnostic review.

PHASE I – DIAGNOSTIC REVIEW. The first phase will consist of a diagnostic review. This diagnostic review will assess the condition of each functional area or business unit against evaluative criteria or expected business practice. The review will be sufficient to determine if the appropriate management controls, systems and processes are in place to identify significant problems, if any, requiring additional focused analysis. Findings and recommendations will be rendered based on the work plans, data requests, analysis and interviews evaluating performance against the evaluative criteria or expected business practice. Interviews must be conducted not only with energy company personnel but also with the energy company labor union(s) and other relevant external parties, to obtain their input into the identification of the appropriate areas for detailed analysis. All recommendations should be quantified except where it is impossible.

PHASE II- PRE-IDENTIFIED AREAS OR ISSUES. The second phase of the audit consists of an in-depth analysis of the Pre-Identified Areas or Issues listed below. However, the Commission may eliminate any or all of these areas of issues if the Commission determines that the proposed costs of analyzing them outweigh the benefits to be derived. The work necessary for this component will be sufficient to make specific recommendations for change and will include projected costs and benefits resulting from the proposed changes.

PRE-IDENTIFIED AREAS OR ISSUES

1. The Consultant will assess the energy company's corporate governance policies, practices and procedures. This assessment will, at a minimum, include a review of:
 - The Board of Directors' organization, board committees' duties, frequency of meetings, and director salary and fee structure;
 - The independence, backgrounds, and areas of expertise of the Board's Audit Committee members;
 - The relationship of the members of each of the energy company's Board of Directors to that of the Board of Directors of their parent company and other affiliated companies;
 - The energy company's ethics and conflict of interest policies and enforcement;
 - The process used to select the external audit firm, the method and degree of communication between the external auditors and the Board of Directors' Audit Committee;
 - The rotation of external auditors;
 - The amount and type of non-audit services provided by the external audit firm, including the methodology used to approve this type of work;
 - The internal audit function's independence and functionality and the frequency and extent of interaction with the Board of Directors' Audit Committee;
 - Internal controls and risk assessment methodology; and
 - Any energy company's planned changes that may impact corporate Governance.
2. The Consultant will identify and assess all relationships between the energy company and their affiliated entities. This should include, but NOT be limited to, the following:
 - An identification and summarization of all billings and charges to, from and among each of the three energy company for the last three years;
 - An evaluation of the fairness and equity of the cost allocation methodologies employed by the energy company, including the reasonableness of overhead factors utilized;
 - A determination as to whether each centralized function is provided most effectively and efficiently on a centralized rather than decentralized basis, and whether the function could be provided at a lower cost by an outside party;
 - A determination of whether the energy company are following GNERC and Securities and Exchange Commission (SEC) guidelines regarding affiliated transactions;

- A determination of the extent to which each of the energy company's financial strength is impacted by or insulated from its affiliated (regulated or unregulated) companies;
 - A determination as to whether any of the energy company's financial instruments contain credit-rating triggers or provisions leading to collateral calls that carry the potential to unduly affect the regulated utilities' liquidity;
 - A determination of the existence of formal dividend policies of the energy company, a summary of such policies including internally and externally imposed restrictions, and analysis of the companies' adherence to the policies.
 - A determination of the extent to which each of the energy company is protected from bankruptcy of the parent and the other entities of the holding company.
3. The Consultant will analyze the effectiveness of energy company's diversity and Equal Employment Opportunity (EEO) programs and activities, to include state-and federally-required filings. At a minimum, this analysis will answer the following questions:
- What have the recent trends been in minority and women employment levels, as well as in purchases and contracting arrangements with minority, women and persons with disability-owned businesses?
 - Are the energy company's complements of minority and female employees reasonably representative of the relevant population?
 - Are the number of minority, female, and persons with disability-owned vendors with whom the energy company's contract for goods and services reflective of the available vendors? Have goals been set with regard to purchases from these vendors?
 - What are the energy company's recruiting, advertising, training, promotion and retention practices with respect to EEO? Does the energy company have an internal procedure for addressing complaints from individuals who allege that they have been discriminated due to their race, religion, age, national origin, sex, or disability?
 - Does the energy company have an adequate EEO plan with challenging goals? Is management held accountable for achieving these goals?
4. The Consultant will examine the energy company's customer service, billing, and collection functions in detail. Among the areas or issues to be addressed in this examination are:
- The capabilities and effectiveness of the energy company's customer information and billing systems compared to systems used by other electric utilities and the training of customer service personnel in system utilization;
 - The reasonableness of staffing levels and overall performance of the energy company's call center, including validation of telephone access statistics, and appropriate use of interactive voice response (IVR) equipment and telecommunications technology in general;
 - The energy company's customer complaint procedures, including a review of their compliance with the Regulator's dispute handling procedures.

When evaluating the energy company's customer service, billing, and collection policies and procedures, the Consultant will consider all applicable Commission regulations.

5. The Consultant will review any pending or outstanding shareholder proposal(s) and assess what impact the proposal(s) would have on the energy company's management, operations, and financial condition. In determining the potential impact of the proposals, the Consultant should consider both the quantitative and qualitative effects on the energy company and their ratepayers.

PHASE III – FOCUSED ANALYSIS. The third phase of the audit, if deemed necessary, would be an in-depth analysis of specific areas or issues resulting from the diagnostic review. In order to initiate this phase of the audit, the Consultant will be required to demonstrate to the Project Officer that proceeding with a focused analysis will lead to recommendations for providing better service, improving operations, or, in general, be cost beneficial. The focused analysis will be sufficient to make specific recommendations for change and will include projected costs and benefits resulting from the proposed changes.

ATTACHMENT 2

Procedure to Hire Outside Technical Auditor to Provide System Investigation on Offerings of Competitive Services and Audit Procedures

New Jersey Board of Public Utilities

Two Gateway Center

Newark, New Jersey 07102

SECTION 1. GENERAL INFORMATION

1.1 Introduction

The New Jersey Board of Public Utilities (Board) issues this Request for Proposal (RFP) pursuant to N.J.S.A. 48:3-55, 48:3-56, and 48:3-58 to secure the services of one or more independent consultants (Contractor) to conduct audits of the competitive business segments of all New Jersey's electric and gas utilities (Utilities): Connective; GPU Energy (GPU); Public Service Electric and Gas Company (PSE&G); Rockland Electric Company (RE); Elizabethtown Gas Company (EG); New Jersey Natural Gas Company (NJNG); and South Jersey Gas Company (SJG).

The purpose of these audits is to ensure that the Utilities or their related competitive business segments do not enjoy an unfair competitive advantage over other non-affiliated purveyors of competitive services and to monitor the allocation of costs between competitive and non-competitive services offered by the Utilities. The audits should begin within 60 days of the issuance of this RFP. All costs related to this engagement will be borne by the Utilities, and it is expected that the engagement will take 90 days to complete.

1.2 Scope

The primary scope of these audits is to review the Utilities' competitive services offerings in relation to the Electric Discount and Energy Competition Act (the Act), the board's rules, regulations and orders related to competitive services. (Attachment 3: N.J. Electric Discount & Energy Competition Act; Attachment 4: NJ BPU Affiliate Relations, Fair Competition & Accounting Standards) The Contractor will offer its expert opinion, based on appropriate methodology, as to whether there is strict separation and allocation of each utility's revenues, costs, assets, risks, and functions, between the utility's electric and/or gas distribution operations and its related competitive business segments. The audits will also determine whether there is (1) cross subsidization between utility and non- utility subsidiaries within a public utility or holding company; (2) whether the separation of utility and non- utility organizations is reasonable based upon the Board's affiliate relation and fair competition standards; (3) the effect on ratepayers of the use of utility assets in the provision of non-safety related competitive services; (4) the effect on utility workers; and (5) the effect of utility practices on the market for such services. The Consultant may also be asked to give his opinion on whether any other service offered by the utilities is a competitive service. The Contractor, based on its stated methodology, will quantify the amount, if any, the Utilities have unfairly allocated. Each of the Utilities, and interveners, shall have the right to contest the methodology and rebut the findings of the audit. The audit areas of review will include, but will not necessarily be limited to, the following:

- Corporate Planning
- Executive Management
- Organizational Structure
- Communication and Control
- Cost Allocation Methodologies for:
 - a. Centralized services
 - b. Transfers to, or uses of, utility assets, property, and plant (e.g., utility buildings, vehicles, tools, and equipment) by the competitive service programs
 - c. Personnel transfers
 - 1. Permanent reassignment,
 - 2. Temporary/part - time reassignment, and
 - 3. Shared employees
- Subcontractor Utilization

- Inter-/Intra-company Billings
- Program-Related Revenues
- Program-Related Expenses (direct and indirect)
- Compensation (including salary, fringe benefits, incentives, etc.)
- Record-Keeping (including timesheets, cost allocation, reports, program statistics, etc.)
- Support Services (e.g., legal, insurance, real estate, data processing, etc.)

Electric generation service is deemed to be a competitive service and will be included in the scope of this audit. The scope of these audits is also restricted to competitive services offerings and related utility operations within the State of New Jersey, with respect to those of the Utilities which, or the affiliates of which, may offer such services in other states.

1.3 Objective

The objective of these audits is to provide the Board with the information necessary to determine whether the competitive services identified as such are, in any way, cross-subsidized by the individual utility's regulated activities and to determine the reasonableness of the lump-sum charges (i.e., service contract rates) and the time-and-materials charges encountered in a competitive environment. The results of the audits will be used in conjunction with information gathered by Staff in determining whether the Utilities are in compliance with the intent of N.J.S.A.48:3-55, 48:3-56, and 48:3-58 to restructure New Jersey's electric and gas industries so as to create open competition without undue consequences to the safety, adequacy, and propriety of traditional, basic utility service.

1.4 Schedule

It is the Board's intention to adhere to the schedule as proposed (Attachment 1).

1.5 Definitions and Responsibilities of Parties

The definitions and general responsibilities of the Board, Utility, and Contractor are as follows:

1.5.1 Board. The Board is the client for whom the audits are to be performed and is the sole point of contact for this RFP. The Board and/or its Staff ("Staff") will: (1) evaluate the submitted proposals; (2) choose the Contractor; (3) supervise the performance of the audits; (4) review the Contractor's expenses and authorize payment; and (5) utilize the results of the audits for the purposes set forth in the RFP.

1.5.2 Utility. The Utility is the subject of the audit and will be the signatory to the contract. The Utility will: (1) be responsible for all costs related to this audit; (2) cooperate with the Contractor and Staff; (3) provide timely and complete responses to all document and interview requests; and (4) provide adequate working space and necessary office equipment for the Contractor and Staff.

1.5.3 Contractor. The Contractor is the selected consulting firm(s), its personnel, and subcontractors. The Contractor will:

- (1) Perform the audit(s) under the supervision of Staff;
- (2) Ensure that any subcontractor complies with the RFP;
- (3) Report, as required, to Staff;
- (4) Submit expenses to Staff for the authorization of payment;
- (5) Submit the results of the audit(s) to Staff; and,
- (6) Provide testimony, if required, regarding the results of the audit(s).

1.6 Confidentiality

Unless otherwise ordered by the Board, all aspects of the submitted proposals, and performance of the audit(s) shall be confidential.

1.7 Rejection of Proposals

The Board reserves the right to reject any or all submitted proposals not in conformity with this RFP, or for any other cause.

1.8 Proposal

Prospective contractors ("bidders") must submit a complete response to this RFP in accordance with the format provided in Section 2.1. It should be addressed to: Walter P. Szymanski, Director of Audits, Two Gateway Center, Newark, NJ 07102. Also, an RFP Review Conference will be held at the Board's Newark office in order to respond to any bidder questions on the RFP and further explain the purposes of this engagement. There must be one original proposal, signed by an official authorized to bind the bidder to its provisions, and 10 copies. The proposal must remain valid for the length of the audit(s). Once all accepted proposals are reviewed, Staff may require interviews with the remaining bidders to discuss the contents of the proposals.

Both the RFP and the proposal will comprise contractual obligations for the selected Contractor(s), unless modified by mutual consent. The Board will determine the number of consultants/contractors who will perform this review after its scheduled Board meeting on May 10, 2000. It is vital that the consultants/contractors provide the Board's staff with comments associated with the consultant's ability to perform one or more audits. This information will be presented by Staff to the Board at its agenda meeting scheduled for May 10, 2000, at which the Board will determine the number of audits that will be awarded, i.e. one, two, three, seven, etc.

1.9 Incurred Costs

Neither the Board, Staff, nor the Utilities shall be liable for any costs incurred by the Contractor prior to Staff's authorization to execute a written agreement signed by the Utility and the Contractor.

1.10 Compensation

Payment of any contractual costs incurred subsequent to the signing and authorization of a written agreement will be made upon receipt of the Contractor's invoice, as set forth in Section 3.4. Payment of invoices will be 100% of the undisputed amount of expenses and 80% of the undisputed amount of professional and support staff fees. The remaining 20% will be paid when the final report is filed with the Board and all contractual obligations have been met. Disputed amounts shall be subject to arbitration by the Board.

SECTION 2. PROPOSAL CRITERIA

2.1 Format

Review and evaluation of the proposal will be based upon the following format:

2.1.1 Summary

A discussion reflecting the bidder's understanding of the proposed audit.

2.1.2 Work Plan

A discussion setting forth the bidder's work plan, as follows:

- A. Approach, with emphasis upon the techniques for collecting and analyzing data;
- B. Products to be delivered and time estimates for each task;
- C. Sequence and relationship of all areas to the experience of the personnel in each category; and,
- D. Methods of managing the audit(s).

2.1.3 Experience

A resume of the bidder indicating previous experience, with full identification of all references and descriptions of assignments completed and their pertinence to this engagement.

2.1.4 Personnel

Resumes of all personnel to be involved in the audit(s), including previous experience, clients served, and respective dates. Experience should reflect previous work assignments for each person as it relates to the area of his/her assignments. Any substitution of personnel must be approved by the Board's Director of Audits after a review of the Contractor's written justification; including detailed resumes of the substitute personnel.

2.1.5 Relationship with the Utility Companies

A detailed statement indicating any prior, existing, or prospective relationship, financial or otherwise, between the Contractor, its personnel, and/or subcontractors, and the utilities being audited.

2.1.6 Costs

List separately the not-to-exceed bid for services, itemized as follows:

- A. Professional and support staff fees of all personnel, consisting of the projected hours and rate per hour for each category;
- B. Supplies and materials;
- C. All travel expenses, including transportation, meals, lodging, etc.;
- D. Any other direct costs.
- E. Costs incurred after completion of the audit, if necessary for the presentation of findings, e.g., cross examinations, hearings, and all other procedural matters, will be in addition to the cost of the audit(s), and are to be negotiated between Staff and the Contractor;
- F. Costs for the performance of work determined to be outside the initial scope of the RFP by the Board or Staff will be only incurred with the specific, written authorization of Staff. The hours worked shall be billed at the average professional rate per hour, based upon all professional rate categories set forth in Section 2.1.6. If Staff determines additional hours to be necessary, said hours shall be considered to be a modification of the written agreement and shall be mutually agreed upon by Staff and the Contractor, unless otherwise ordered by the Board.

2.2 Other Information

Any other information which may assist in the review of a submitted proposal, such as brochures, literature, or samples of recent assignments completed, may be submitted with, but shall not be considered part of, the proposal. The Board may award a contract for any or all parts listed under the Scope. The Board may also award a contract for any or all the utilities subject to this audit.

SECTION 3. AUDIT PROCEDURE

3.1 Safety Standards

When on the utility's premises, the Contractor must comply with all regulatory standards and utility policies dealing with safety, insurance, and work specifications.

3.2 Project Control

The audit(s) will be performed in accordance with the written agreement. There will be no direct reporting by the Contractor to anyone but the Board or Staff. All written and oral communications will be through Staff. The Contractor may be requested to discuss audit progress with Staff, as necessary.

3.3 Monthly Progress Reports

The Contractor shall submit a written monthly report for any month in which work was performed. The report shall consist of a general narrative providing adequate information regarding the status of the audit(s), with an explanation of any discrepancies between the approved work plan and actual progress.

3.4 Invoices

All invoices shall be presented to Staff with the Monthly Progress Reports and supported by appropriate documentation and may be subjected to an audit by the Board and/or the Utility for a period of two years after the completion of the audit(s). The invoices should be itemized as in Section 2.1.6 and shown in relation to the contractual cost.

3.5 Development of Final Report

The results of each audit shall be filed with the Board in a separate final report for each utility. The development of the final reports will evolve in two stages:

3.5.1 Draft Report

A draft of each final report shall be submitted and shall include a summary of the audit process and a summary of all recommendations. Upon the resolution of any factual discrepancies, Staff will authorize the preparation of the final report.

3.5.2 Final Report

The Contractor shall provide a maximum of 100 bound copies of the final report to be filed with the Board and one master copy suitable for photocopying, or as Staff may deem appropriate. The Board may authorize the printing of a number of redacted reports to protect proprietary information, if necessary.

ATTACHMENT 1 (to the audit procedures)

ESTIMATED SCHEDULE

1. Send RFP to prospective contractors 04/19/00
2. Receive letters of intent from bidders 05/01/00
3. RFP review conference 05/08/00
4. Receive proposals from bidders 05/22/00
5. Board selects Contractor 06/21/00
6. Signing of contract 06/30/00
7. Audit begins 07/03/00
8. Contractor submits draft report 09/08/00
9. Staff reviews draft report 09/15/00
10. Utility reviews draft report for factual accuracy and proprietary information 09/22/00
11. Contractor files final report 10/01/00

*** The RFP will contain one separate schedule for each utility. Dates may vary for each utility based on individual circumstances.**

USAID Governing for Growth (G4G) in Georgia

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